



N810 Newsletter



Updates from the Requirements and Acquisition Branch and Navy JROC POC

November 1999

Vol 1/Issue 6

A Brief Description Of Advanced Concept Technology Demonstrations (ACTDs)

Advanced Concept Technology Demonstrations (ACTDs) exploit mature and maturing technologies to solve important military problems. A declining budget, significant changes in threats, and an acceleration in the pace of technology development have created challenges to our ability to adequately respond to rapidly evolving military needs. In addition, the global proliferation of military technologies, resulting in relatively easy access to these technologies by potential adversaries, has further increased the need to rapidly transition new capabilities from the developer to the user.

In early 1994, DoD initiated the ACTD program to help the acquisition process adapt to today's economic and threat environments. ACTDs give emphasis to technology integration rather than technology development. The goal is to provide a prototype capability to the warfighter and to support him in the evaluation of that capability. These capabilities are evaluated by the warfighters in real military exercises and at a scale size sufficient to fully assess military utility.

ACTDs are designed to allow users to gain an understanding of proposed new capabilities for which there is no user experience base. Specifically, they are designed to allow the warfighter an opportunity to

- develop and refine the associated concept of operations to fully exploit the capability under evaluation,
- evolve the operational requirements as experience and understanding of the capability are developed,
- and operate militarily useful quantities of prototype systems in realistic military exercises, and on that basis to make an assessment of the military utility of the proposed capability.

At the conclusion of the demonstration, and depending upon the user's recommendation, a decision may be made to proceed into acquisition; and to field the residual capability that remains at the completion of the demonstration phase of the ACTD to provide an interim and limited operational capability. If the capability or system does not demonstrate military utility, the project would be terminated or returned to the tech base. A third possibility occurs in the case where the user's need is fully satisfied by fielding the residual capability that remains at the conclusion of the ACTD, and there is no need to acquire additional units.

How are ACTDs Originated?



Each ACTD candidate should arise in response to a serious need for new or increased military capability, as perceived and articulated by the operational warfighting community (JCS, CINCs, Service operational organizations).

The Deputy Under Secretary of Defense (Advanced Technology) (DUSD/AT) has the oversight responsibility for the ACTD program.

ACTD Formulation and Submission

The formal preparation of ACTD candidates begins around the start of each fiscal year when the DUSD/AT issues a data call to both the R&D and warfighting communities, with responses due the following January. The warfighter community typically responds with a description of a priority military need that may or may not have proposed solutions included. When no solution is proposed, the ODUSD/AT will coordinate with the development community to identify candidate solutions. If concept formulation does not begin until the time ACTD

candidates are submitted, there could be a significant delay in getting the ACTD defined, evaluated, and approved. However once the concept formulation task begins, the same considerations apply as described below for the technology driven case, except here, the warfighter support is already in place.

When the process begins with the technology, it is generally in the form of a proposed new military capability that offers significantly greater effectiveness or efficiency in conducting military or military support operations than is achievable with current systems.

The term "capability" is frequently used when describing ACTDs because the goal is to respond to a priority military need with the combination of hardware (and/or software), operational concepts and organizational structure that satisfy that need. Typical issues could be; emplacement or movement on the battlefield, suitability in a combat environment, and the interface with an existing or planned data distribution system. Where required concepts do not exist, provisions should be included in the proposed capability for filling any gaps.

ACTD Selection Criteria

To satisfy the objectives described in the preceding section, guidelines have been developed which apply to both the proposed capability and to the program for developing and evaluating that capability. Although these guidelines have generally been referred to as the ACTD selection criteria, they are intended to provide guidance during the formulation of candidates as well as structure during the ACTD selection process. These criteria are as follows:

- ✓ The timeframe for completing the evaluation of military utility is typically 2-4 years.
- ✓ The technology should be sufficiently mature.
- ✓ It provides a potentially effective response to a priority military need.

- ✓ The user signs up to be intimately involved in the ACTD.
- ✓ A lead service/agency is designated.
- ✓ The risks have been identified, are understood and accepted.
- ✓ Demonstrations or exercises that will provide an adequate basis for the utility assessment are identified.
- ✓ Funding is sufficient to complete the planned assessment of utility and to provide technical support for the first two years of fielding of the interim capability.

ACTD Selection Process

The selection process begins with the submission of proposed ACTDs in response to the data call issued by the DUSD/AT in October of each year. Candidate ACTD proposals should address the need, capability proposed, type of demonstration envisioned, participants, and overall schedule. This proposal should include a description of the perceived military need, urgency of timing, and potential utility of the candidate system. It should also include a description of the basic technology/concept and the type of demonstration envisioned.



The next step is to prepare a briefing package to be presented to the DUSD(AT). The briefing should define the top level mission need, the ACTD objectives, operational concept, technical approach, time scale, anticipated program cost, the management structure, primary participants, the anticipated interim capability and, in general, should address the "ACTD Selection Criteria".

The result of this initial briefing will be one of the following courses of action: (a) acceptance of the ACTD as a formal "candidate", (b) critique by DUSD(AT) and request for revision and follow-up presentation; or (c) determination that the concept, for whatever reason, is outside the scope of the ACTD process.

Once the concept has been judged appropriate, an information briefing will be presented to the appropriate JWCA team of the Joint Staff for assessment and comment. The DUSD(AT) will consider the recommendations and will make the determination whether to retain the specific ACTD candidate for presentation to the JROC. The JROC reviews and recommends prioritization of ACTD candidates based on military need. A final review, termed the 'Final Scrub', is then conducted in just prior to the start of the fiscal year of those candidates ranked by the Joint Staff and OSD as most deserving of ACTD status. The focus of this review is once again on the selection criteria, with the addition of two other topics; transition strategy and proposed ACTD management structure.

Once all final reviews of the viable candidate have been completed, a final ACTD selection list is established by the DUSD(AT). This ACTD list is then coordinated with the Vice Chairman, JCS and the Undersecretary of Defense (Acquisition and Technology) before the final ACTD Implementation Directives for the approved ACTDs are signed by the DUSD(AT).

Problems with ACTDs

ACTDs are not always trouble-free. The first problem is that in a world of constrained budgets, when somebody's "good idea" evolves into an ACTD, **it may draw funding away from a program that is actually more important.** The ACTD community often seeks approval validation from senior leadership, the JROC, etc. If you are an advisor to that leadership, you should be careful about applying your imprimatur to a program that lacks funding, until you know more about where the money is going to come from.

Another problem has to do with the fact that **although it's tedious, the formal requirements process does actually have value.** By bypassing much of the requirements process, **ACTDs often get fielded before operational employment concepts can be developed, interoperability issues can be resolved, developmental and operational testing can be completed, etc.** As a result, the ACTD concept should be applied only to "silver bullet" technologies that have the benefit if being able to immediately save lives or win wars. Less time-critical technologies should go through the normal requirements development process.

ACTD Initiation And Management

For additional information on the ACTD initiation, approval process, and on the actual initiation of the ACTD, consult the Defense Acquisition Deskbook (DAD).. The deskbook is available on the Internet at "<http://www.deskbook.osd.mil>".

Answers To Questions Submitted By Readers

Q: My program just finished Flag endorsement and is ready to be submitted for approval. Do I have to revise the document to comply with the new CJCSI 3170.01A before I send it for approval?

A: NO, you do not have to revise the document yet. However you must be aware of the required information in the new instruction, and be prepared to address those in the next revalidation of your document. The Joint Staff (J8) is preparing a policy memorandum that will address when

requirements documents are expected to be in full compliance with the new guidance. The bottom line is that ALL NEW documents must comply with the new procedures. Existing ORDs will have to be revalidated – IAW DOD Regulation 5000.2R – prior to the next milestone, using the new format. Existing ORD with acquisition milestones in the next few years will have to comply with the new procedures no later than a date that is yet to be determined.

We will keep you informed of this policy as soon as it is promulgated.

Contact N810 with your questions, suggestions, or comments at



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